The Medical Fortnightly.

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UNDER THE EDITORIAL DIRECTION OF

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Editorial Department.

The Reorganized American Medical Association.

THE Saratoga meeting of the American Medical Association demonstrated the wisdom of the movement which culminated in the reorganization of the Association. Like every other well organized machine, many adjustments will be necessary before the full calculated energy is developed. Yet, the workings at the initial meeting were in every way satisfactory, and give evidence of speedy and reliable results for the future. This is now the most democratic scientific organization in this country. It has a latent power that is sure to be a force for good for years to come, which even the coming politician clad in the habilaments of national influence, must and will consider before he starts on his career to conquer the unknowable. The physicians of the United States under this plan of organization of the American Medical Association will have an influence for good that will be felt, and when called upon, they may not move mountains, but they can stand as a unit for the welfare of humanity, and will do so fearlessly. The physicians must learn more of their duties to the public, to their profession, and to themselves. Seek to use this influence, which is theirs, and be a part of the great organization, which, as represented by the American Medical Association, will be the greatest power for good which is capable in these years of wonderful civilization.

The reorganized Association will extend this influence to every city, town and village wherever a physician is located, and it is every physician's duty to now associate himself with this organization. This can be done by joining to the county society in his own county; if such an organization does not exist, organize one by all means, so that the influence of progressive medicine, and progressive medical organization may be felt in every nook and corner of this fair land of ours.

The house of delegates of the Association elected Dr. Frank Billings, of Chicago, president for the ensuing year, and selected New Orleans as the place of meeting in 1903. F. P. N.

The American Congress of Tuberculosis.

THE AMERICAN CONGRESS OF TUBERCULOSIS of 1902, in words of the immortal Chimmie McFadden was somewhat of "a frost." It was unfortunate, to say the least, that the delegates sent from the various States were not familiar with the organization of the Congress and of the peculiar local conditions existing in New York City, which influenced the formation of the program, and cast a frosty mantel over an otherwise worthy and commendable organization. However, the President, Dr. Holton, of Vermont, arose to the emergency, and with high executive and professional ability conducted the proceedings with great personal credit and with marked and deserving consideration for the peculiar existing conditions under which this meeting was held. Dr. Holton succeeded, with the assistance of the earnest workers (delegates from various States), in keeping the professional spirit of the occasion foremost, and succeeded in formulating an outline for future meetings, which will give the congress its deserving professional recognition. It is to be hoped that it will become affiliated with the American Medical Association, and work in harmony with it. When this is done there will be a place for such a congress, and the great work which it can do will have the confidence and support of the medical profession of this country. Until this is secured such an organization will be handicapped, and have for its way one full of obstacles, troubles and discords.

The New York meeting had some redeeming features in many of the excellent papers read by well known men.

In spite "of the frost" some good came out of the meeting, as the officers elected are men who propose to make the congress a success, put it upon a strong professional footing and promote its great object in every way possible. The officers elected are as follows:

Honorary President—Dr. Henry D. Holton, Brattleboro, Vt.
President—Dr. Daniel Lewis, New York, N. Y.
First Vice-President—Dr. J. A. Egan, Illinois.
Second Vice-President—Dr. Frank Paschal, San Antonio, Texas.
Third Vice-President—Dr. E. J. Barrack, Toronto, Canada.
Fourth Vice-President—Dr. I. A. Watson, Concord, N. H.
Fifth Vice-President—Dr. Romola, Gautemala.
Secretary—Dr. George Brown, Atlanta, Ga.
Treasurer—Dr. P. H. Bryce, Toronto, Canada.

The Vice-Presidents for Missouri are Drs. Chas. Wood Fassett, St. Joseph; U. S. Wright, Fayette, and Reuben Barney, Chillicothe. Meetings of the congress will hereafter be held coincident with the American Medical Association.

The following resolutions were unanimously adopted:

Resolved, That tuberculosis is an infectious and communicable disease, and one which requires eternal vigilance on the part of the profession and public to prevent its spread.

Resolved, That it is the duty of the national, state, and municipal governments to enact rational methods for the prevention of tuberculosis,

and we recommend the establishment of institutions for the cure of indigent consumptives.

Resolved, That there should be state and municipal supervision of all public conveyances used for the transportation of passengers, and in view of the fact that spitting on the floor of such conveyances favors the spread of tuberculosis and is injurious to the public health, it is recommended that transportation companies be induced to pass and enforce rules against this act.

Resolved, That state and municipal governments be requested to make appropriations for the publication and distribution of literature as a means of education among the masses in the prevention of the spread of tuberculosis.

Resolved, That all cases of tuberculosis should be reported by the attending physician to the health boards for the purpose of the disinfection of houses occupied by consumptives.

The suggestion to hold a World's Congress of Tuberculosis in St. Louis in 1904 met with approval, and steps are being taken to advertise this fact and secure the aid of medical journals, societies, physicians, and scientists in making this movement a success. F. P. N.

Union of Medical Colleges.—Announcement is made that the ruling bodies of the Denver College of Medicine and the Gross College of Medicine, of Denver, have decided to consolidate the two.

Dr. Robert Leudeking, professor of diseases of children in the Medical Department of Washington University, has been elected dean of the department to succeed Dr. Shapleigh, who has resigned.

The Omaha Medical College has joined the Nebraska State University, and now becomes the Medical Department of that institution. We congratulate both schools—the union will give greater strength to each.

At the sixteenth annual meeting of the American Association of Genito-urinary Surgeons held at Atlantic City the following officers were elected for the ensuing year: President, Dr. Paul Thorndike, Boston, Mass.; vice-president, Edwin C. Burnett, St. Louis, Mo.; secretary, Dr. John Vanderpoel, New York. The next place of meeting will be Washington, D. C.

Our Leper Which Was.—A cure for leprosy discovered by the St. Louis quarantine physician has been heralded by the St. Louis papers, and has entertained thousands of more or less credulous readers. We hope Dong-Gong is cured, for his isolation seemed very cruel, even though necessary—but if he is cured we cannot believe that one case is sufficient to establish a specific treatment. There are those who are so cruel as to doubt the original diagnosis in the light of present developments. We are not of these; we have no doubt of the authenticity of the case, but we do object to the ludicrous features which have attended the conduct of the case from the beginning.

The Reviewer's Table.

Books, Reprints, and Instruments for this department, should be sent to the Editors, St. Louis.

A Treatise on the Acute, Infectious Exanthemata. Including Variola, Rubeola, Scarlatina, Rubella, Varicella and Vaccinia, with especial reference to Diagnosis and Treatment. By William Thomas Corlett, M.D., L.R.C.P.Lond., Professor of Dermatology and Syphilology in Western Reserve University. Illustrated by 12 colored plates, 28 half-tone plates from life, and 2 engravings. Pages 392. Sold only by subscription. Philadelphia: F. A. Davis Company, Publishers, 1914-16 Cherry street. (Price, extra cloth, $4.00 net, delivered.)

The general prevalence of small-pox during the past winter and the prospect of a return of the trouble with its season gives the profession an especial interest in literature on the subject and those allied with it. This volumes is a masterpiece among its kind. Dr. Corlett has profited by the memory of his needs in the early days of his professional career and has produced such a book as he would like to have had at that time. Like all of Corlett's writings this volume contains a vast amount of practical information, put in a clean, clear and attractive form; each subject is so ably handled that great popularity for the book might be predicted from a reading of any one chapter. Illustrations have been introduced in great profusion, and they are of excellence beyond that usually found outside of atlases, which make illustration superior to text in matter of importance. These illustrations are in the main from original cases treated by the professor and his associates, they are largely done in natural colors. The volume will prove a valuable addition to any working library.

The Four Epochs of Woman's Life. A Study in Hygiene. By Anna M. Galbraith, M. D., Author of "Hygiene and Physical Culture for Women;" Fellow of the New York Academy of Medicine, etc. With an Introductory Note by John H. Musser, M.D. Professor of Clinical Medicine, University of Pennsylvania. 12mo volume of 200 pages. Philadelphia and London: W. B. Saunders & Company, 1901. (Cloth, $1.25 net.)

Women have at last awakened to a sense of the penalties they have paid for their ignorance of those laws of nature which govern their physical being, and to feel keenly the necessity for instruction in the fundamental principles which underlie the epochs of their lives. This is pre-eminently the day of preventive medicine. The physician who can prevent the origin of disease is a greater benefactor than he who can lessen the mortality or suffering after disease has occurred. Any contribution, therefore, to the physical, and hence the mental, perfection of woman should be welcomed alike by her own sex, by the thoughtful citizen, by the political economist, and by the hygienist. In this instructive work are stated, in a modest, pleasing, and conclusive manner, those truths of which every woman should have a thorough knowledge. Written as it is for the laity, the sub-

ject is discussed in clear, comprehensible language, readily grasped even by those most unfamiliar with medical subjects. A valuable and commendable feature of this handy volume of instructive information is a comprehensive glossary of those medical terms necessary to a thorough understanding of the subject under discussion. Without doubt, it is a book that should receive the thoughtful consideration of every woman.

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An Old-Timer.—Dr. Johann Jacob Eisenhut celebrated his 102d birthday at St. Anthony's Hospital Denver, April 3d. Beginning life in the last year of the eighteenth century, he is now in the beginning of the twentieth century hale and hearty.

Not to be familiar with those leading figures in the world of finance and production who are denominated "Captains of Industry" is not able to read the daily news understandingly. The Cosmopolitan has undertaken to have prepared by the men most competent to write them, sketches of some sixty of these foremost men in the industrial world. No more entertaining reading has ever appeared in that magazine. The undertaking is exciting wide interest in every part of the country.

Mr. Ray Stannard Baker's article on Irrigation in his series on "The Great Southwesst" in The Century for July will not be the first on that subject printed in the magazine, but it is the most timely, coming just as irrigation is receiving the greatest attention in and out of Congress. As an exposition of this subject, with Mr. Baker's usual array of practical details, statistics, color, and incident, this article is likely to attract the attention of the press and the reading public, particularly in the West. The picturesque features of the irrigable country are set forth artistically by the pencil of Mr. Maxfield Parrish, who, it will be remembered, was specially sent to this region to illustrate this series. The Century announces that Mr. Baker's articles have had the advantage of careful revision by government experts, and that they found them singularly accurate.

The New Polk's Register.—The appearance of a new Polk's Register, the edition of 1902, is a matter of very recent occurrence. This edition again impresses us that we are a growing and a *moving* profession. The vast amount of labor entailed in collecting all data pertaining to each individual physician of the United States and Canada, and to each school and association is almost beyond appreciation. The wonder is that errors are not numerous, yet we have yet to locate one. The commercial concerns which are associated with the profession have long appreciated that the Register is invaluable, and a large number of physicians have discovered that it soon pays for itself directly and indirectly, but its circulation among physicians is by no means up to what it should be. There are few progressive men who can afford to be without it, and the few can only so afford because they are able to borrow from neighbors.

Fortnightlettes

DR. ARTHUR DEAN BEVAN has been appointed professor of surgery at the Rush Medical College to fill the position made vacant by the death of Dr. Fenger.

X-RAY AND THE PROSTATE.—The development of X-ray therapy of cancer has lead to the discovery that this agent is of material assistance in treating various pathological states of the prostate, but especially hypertrophy. The details of treatment are yet to be developed, but sufficient successes have been recorded to lead us to consider it with considerable favor.

RELIGIOUS SECTARIANISM IN HOSPITALS.—Religious differentiation will be carried out, it is said, in the proposed new civic hospital for contagious diseases in Montreal. It is to be built on the pavilion plan, and the pavilions so arranged and the nursing staff so divided that there will be entire separation of the Catholics and Protestants. It remains to be seen whether Protestant or Catholic treatment will prove the more successful.

FAILED TO GET HER CONSENT.—A New York woman brought suit against the Presbyterian Hospital of that city for performing an autopsy on the remains of husband without her individual consent, and the jury rendered a verdict for $500. The hospital authorities based their defense on the ground that the woman's brother had granted permission, but the court declared their position untenable and charged that the wife was the only legally invested with power to authorize the post-mortem.

HARVARD MEDICAL SCHOOL IN LUCK.—A gift of $250,000 from Mrs. Collis P. Huntington, more than completes the sum of $765,000 required to secure the $1,000,000 offered by John D. Rockefeller, of New York, for the enlargement and endowment of the Harvard Medical School. Mrs. Huntington's subscription is specifically for the erection of a building in memory of her late husband, to be called the "Collis P. Huntington Laboratory of Pathology and Bacteriology." With Mr. Rockefeller's gift, and the pledge made by J. P. Morgan, last June, to give three buildings at a cost exceeding $1,000,000, an aggregate of $2,821,225 will be available for the use of the medical school.

VACCINATION FACTS.—The late acting superintendent of the Glasgow Hospital, Dr. R. Fullerton, recently presented a statistical paper on the cases of small-pox admitted to the hospital between April, 1900, and June, 1901: In over 1800 cases the death-rate of the vaccinated was 9 per cent against 52 per cent in the unvaccinated. Of the vaccinated 83 per cent had the disease in a mild form and 17 per cent in a severe form. Of the unvaccinated 43 per cent had the disease in a mild form and 57 per cent in a severe form. To make it short, five out of every six who were vaccinated had a mild attack and the whole six stood nine times as much of a chance for recovery as did the unvaccinated. And yet there are foolish persons who howl against vaccination!

Mrs. Carnegie to Build a Hospital.—Mrs. Andrew Carnegie has expressed her willingness to give $60,000 to build an annex to the Minturn Hospital, in New York, to be used for small-pox patients. The authorities of the institution will consider the plan. The building was intended for diphtheria and scarlet fever cases only. If Mrs. Carnegie will go after the hospitals with the same vigor which has characterized her husband's library campaign we will shortly see a lot of elegant hospitals in the country.

The Climate of Manila and the Philippines.—Major L. M. Maus, M.D., Army Commissioner of Health at Manila, tells much that is interesting in his monthly reports to the Secretary of the Interior. We quote the following from his last report: "The climate of the Philippines is pleasant, equable and healthful, and it is doubtful whether any other country in the world is more favored in this regard. At the level of the sea throughout the entire archipelago the mercury rarely goes below 60 deg. or above 90 deg. F. during the entire year. The mean maximum temperature for each month during the period beginning January 1, 1885, and ending December 21, 1898, was as follows: January, 85.6; February, 87.3; March, 89.9; April, 92.5; May, 91.9; June, 89.8; July, 87.3; August, 87.1; September, 86.9; October, 87.8; November, 86.3; December, 85.3, with a general mean maximum for the twelve months for this period of 88.1. The monthly mean minimum for the same period was as follows: January, 69.3; February, 69.1; March, 71.6; April, 73.9; May, 75.7; June, 75.6; July, 75.2; August, 75.2; September., 75.2; October, 75.3; November, 72.7; December, 70.9, with a general mean minimum during the same period of 73.2. From the middle of November until the middle of March, the temperature in Manila is delightful; from that time on until the latter part of June, it is hot during the middle of the day, but considerably less so than in many of the Southern States during the summer, and cool compared to the Texas Border along the Rio Grande. From July to November, during the rainy season, the temperature is little higher than during the winter months, which is due to the frequent rains and clouded condition of the sky. Many people who have lived here several years regard the rainy season as preferable to any other season of the year. During the early American occupancy, when campaigns and severe hikes were daily occurrences, our troops suffered severely from intestinal and other troubles which were preventable. Neither officers nor men understood how to care for themselves, and constantly drank polluted water from the pueblo wells, and exposed themselves unnecessarily to the rays of a tropical sun. Partly as a result of the large amount of sickness which occurred among the troops, and partly from grossly misleading and exaggerated reports sent to newspapers and friends in the United States, by hysterical men and women who were here at the time, the climate of the Philippines has been so greatly misrepresented that many Americans have been dissuaded from coming here on that account. Recent experience among both American civilians and troops has proven the contrary of these previous unfavorable reports. With the exception of loss of fat few who understand how to live in the Philippines will suffer ill health as a result of climatic conditions."

Favorite Prescriptions

Superficial Burns.—Rectus recommends the following ointment:

℞ Iodoformi ..... gr. 7½-15
Antipyrini .....
Acidi borici .....aa gr. 75
Vaselini ..... gr. 600

M.

Wertheimer applies to burns, especially in children, the following liniment:

℞ Thymol ..... gr. 1½-2
Aq. calcis .....
Ol. lini .....aa gr. 1500

M.

Anal Pruritus with Fissure.—In cases in which there is fissure, or in those marked cases of atrophic catarrh in which the mucocutaneous border cracks whenever it is stretched open, the following ointment is very effectual:

℞ Extract of conium ..... 2 drachms
Ointment of stramonium ..... 1 ounce
Lanolin ..... 1 ounce

Sig: Apply well at bedtime and before having a stool.—*Int. Jour. of Surg.*

Rheumatic Arthritis.—The following is recommended as a relieving application in this painful affection:

℞ Salicylate of methyl ..... ʒiv
Chloroform ..... ʒii
Menthol ..... gr. xxx
Lanoline ..... ʒii

M. S. Apply to part.—*Clin. Rev.*

Oxaluria.—Oxaluria with anemia and nervous atony:

℞ Acid hydrochlor. dil. ..... ʒss
Tinct. ferri chlor ..... ʒj
Syr. simp ..... ʒiiss
Aq. ..... ʒiij

M. Sig. Tablespoonful t. i. d. through a glass tube.—*Med. Rec.*

Cystitis.—Dr. B. Foster, in *St. Paul Med. Jour.*, states that, in the treatment of cystitis, when the urine is acid in reaction, the following preparation containing liquor potassae is the most useful:

℞ Liquoris potassae ..... ʒij
Mucilaginis acaciae ..... ʒj
Tinct. hyoscyami q. s. ad ..... ʒiv

M. Sig.: One teaspoonful every four hours in water.

If the urine is already alkaline, and particularly if it has undergone ammoniacal decomposition, urinary antiseptics are indicated, such as salol, boric acid, sodium benzoate or uroprotin.

Original Department.

PAPERS for the Original Department should be in hand one month in advance, and contributed to THE MEDICAL FORTNIGHTLY exclusively. A liberal number of extra copies will be furnished authors, and reprints may be obtained at reasonable rates, if request accompanies the manuscript. Engravings from photographs furnished free.

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Treatment of Typhoid Fever.

By W. A. McIntosh, M. D.

LADYSMITH, WIS.

IN the treatment of this disease we must keep in mind the general indication, which is to maintain the strength of the patient. The treatment may be conveniently considered under the following heads:

Prophylaxis.—All suspected drinking water should be carefully boiled and filtered, and milk sterilized; flies and insects should be excluded from house; good plumbing and drainage of house and premises. Recent experiments in England upon troops inoculated against typhoid as a preventive measure, are encouraging, although not exactly a pronounced success.

Hygiene.—When a case of typhoid fever occurs the patient should be placed in a well-ventilated room, without curtains, carpets or hangings; room should not be dark or glaring light; patient strictly confined to bed and have an intelligent nurse, to whom the physician should give explicit directions; the bed should combine smoothness and elasticity, a good mattress, covered by a double fold of blanket and rubber sheet. Mattresses and pillows protected, if liable to become soiled, bed and body-linen to be changed daily. These must not be shaken or carried through house, but placed in tub of water and boiled. Mattress aired once a week. Dejections from bowel received into bed-pan which contains 5 per cent solution of chloride of zinc and disinfected, then washed with cloth wet with 5 per cent carbolic acid and cloth at once burnt. Patient should have a sponge-bath once a day for cleansing purposes, and be sponged with this lotion: thymol grs. 40, spts. lavender 2 oz., alcohol, and dilute acetic acid of each 3 oz. and rose water to make 16 fl. oz.

It is advisable to cut the hair in severe cases; condition of bladder noted and catheter used, if necessary; the occurrence of bed-sores guarded against by cleanliness and rubbing exposed parts with alcohol.

In case of fatal termination corpse should be wrapped in sheet wet with 5 per cent carbolic acid, placed in close coffin and cremated, if possible. After removal of patient from sickroom, room should be disinfected by generation of formaldehyde, and walls, floor and bedstead washed with 1 to 1000 bichloride of mercury solution.

Diet.—If improper food or too much food is given it will decompose in intestine and act as irritant; as the function of digestion is gravely impaired the following rules are valuable as guides:

1. Utilize food so far as is safe for purpose of checking tissue-waste associated with the fever.

2. Give only such foods as can be readily absorbed and assimilated, and leave smallest amount of residue to form feces; the only fluids which can be absorbed are those which remain fluid.

Water should be boiled, filtered and cooled and given freely,

Ice in small pellets and iced champagne.

Broths and Soups.—Weak beef and veal tea, light and free from grease.

Barley-water.—Whey with new laid eggs strained and beaten up in it.

Clear consomme given when fever is declining.

Milk.—This is the most suitable for majority of cases, diluted with boiled water; if curdles add 15 grs. soda bicarb. to pint, or give as peptonized milk; if still disagrees discard milk as a food.

Patient must be fed at regular intervals during the day.

Stimulants.—These are not necessary in all cases, the following are the indications for their use: marked weakness, high fever, failing pulse, obscure first sound, dry, brown, tremulous tongue, sinking in the bed, subsultus tendinum, low somnolent mental condition with incontinence of urine and feces. Restlessness and sleeplessness are often relieved by one or two ounces of good whiskey well diluted, taken after food. Begin with small quantities (1 to 4 oz. well diluted) and increase as indications arise. As a rule, the older the patient, the greater and earlier the need for stimulants. Good whiskey or brandy best during fever. Port wine and champagne best during convalescence.

Hydrotherapy.—Cold bath—this is the most effective way of reducing fever. When temperature rises higher than 102.5 F. an ordinary tub-bath with enough water at 70 F. to cover patient is brought to bedside, patient is placed in it and remains for 15 to 20 minutes, the limbs and trunk are to be well rubbed.

Contraindications are peritonitis and hemorrhage.

Lukewarm Bath.—Begin with water at 90 deg. F. and gradually cool to 70 deg. F. by pouring cold water in bath and on patient.

Sponge bath—take limb by limb, and then trunk, sponge thoroughly, taking from 20 to 30 minutes to complete bath.

Cold-pack.—Sheet wrung out of water at 65 deg. F. and wrapped around patient, and water sprinkled on patient.

Antisepsis.—The method advised by I. Burney Yeo is probably the best: Into a 12-oz. bottle put 30 grains powdered chlorate of potash, then add 60 minims of strong HCl; when gas has filled bottle slowly add water and shake well, gradually add more water until the gas is all dissolved, then to 12 oz. of this mixture add 1 oz. syrup of orange-peel and 24 grains of quinine. Dose.—One fl. oz. every two, three or four hours.

Calomel.—During first week of fever we may give 2 grains of calomel (in 1-10 grain doses every half hour) to clean out intestine.

Thymol, 2 to 3 grains every three hours with food.

Carbonate of guaiacol, 15 to 30 grains twice a day.

Boric acid, 10 to 15 grains three times a day.

Specific.—The injection of dead cultures of typhoid bacilli as a specific method of cure has not been a success.

Special Symptoms.—High temperature is best controlled by hydrotherapy.

Diarrhea.—Endeavor to prevent by eliminative and antiseptic treatment and proper diet starch and opium enema (Dover's powder 5 grains, tannin 10 grains, gum mucilage 1 oz. mixed with 2 oz. thin starch) inject into bowels after each movement.

Bismuth (Squibb's) with Dover's powder.

Constipation not generally harmful, best relieved by ordinary enema; if laxative is necessary give Hunyadi-Janos water.

Meteorism, if in large bowel pass rectal tube and allow gas to escape. Bismuth, charcoal and B. naphthol are useful.

Pain apply turpentine stupes to abdomen.

Hemorrhage.—Absolute rest, morphin gr. $\frac{1}{4}$ (hypo.) full doses of lead and opium, starch and opium enema, enema of turpentine, ergot (hypo.,) restrict food. If patient is in state of collapse give stimulants, ether (hypo.); apply binder to abdomen

Perforation.—Apply abdominal binder, give opium, grs. i, every hour. Laparotomy offers fair chance of saving patient.

Heat-failure and hypostatic congestion.—Stimulants, whiskey, strychnine and ether (hypo.), caffein and tonics.

Nervous symptoms, such as delirium and restlessness controlled by hydrotherapy Dover's powder is useful.

Bed sores, prevent by cleanliness and alcohol rubbings; if they do occur apply antiseptic dressings.

Complications, such as pneumonia and meningitis, must receive appropriate treatment.

Convalescence.—No solid food until temperature (both night and morning) has been normal for ten days, such foods as eggs, milk, milk puddings and jellies may be given to relieve the hunger of patient; bowels should be relieved by enemata. Patient may recline in open air in favorable weather. A glass of good port wine each day is beneficial.

Relapse treated same as attack.

President's Address.

By J. D. Griffith, M. D.,

KANSAS CITY, MO.

President Missouri State Medical Association.

Read before the Medical Association of Missouri, at St. Joseph, Mo., May 20, 1902.

THE decree has gone forth that the servant of the Medical Association of Missouri must deliver an annual address. I am fully conscious of my inability to discharge this duty, especially as this, the forty-fifth meeting, is probably, or at least should be, the most important in the history of the medical organizations of our great commonwealth; again, I cannot but feel great timidity in addressing you when I see so many distinguished members here who have grown old in the work of this body.

I wish first to express my thanks to you for the honor conferred in electing me your presiding officer—the highest honor that can be awarded by the members of the profession in the State.

Our thanks are certainly due to the Committee of Arrangements for their generous entertainment and hospitality; to the Committee on Scientific Communications, for we are having a most delightful medical feast; to the Committee on Publication, their work having been most beautiful and expeditious; also to the Committee on Reorganization, who have done most excellent work during the past year.

The spirit of the age manifests itself in the concentration of power. Above all other professions, the medical needs co-operative action and systematic organization. In this State we have reached a period where it is necessary. Let us not forget that the change must come slowly; otherwise it may defeat its purpose in an effort to proceed too fast. Let our keynote be: "In unity there is strength." Our profession does not like well the idea of relinquishing long entertained opinions, even though we may know that they are not for the best. Let us inquire of ourselves and see that no prejudices are harbored, as we can rest assured that our changed relationship does not involve, necessarily, the surrender of old entertained convictions. It may be that we, as individuals, do not feel at liberty to act at once, but this will all come about by gradual adjustment and State environment.

It devolves upon the profession to stimulate, to restrain or otherwise to control the law-making powers of our Congress and Legislatures, and this can only be done by complete organization. Our responsibility is increased rather than diminished.

We have today too many miscellaneous medical societies without any common plan, thus detracting from rather than adding to the influence of our national organization. The legitimate action of every regular physician should be to give support to the American Medical Association and all societies in affiliation with it. The general public does not interest itself in having the statutes enforced—and why? First, because it is the duty of the profession; second, when the layman has thrown into his ears

the bickerings and jealousies of his medical advisor concerning his brother, he loses that high regard for the profession which should obtain, and is now not interested in the least in your medical laws.

A single physician acting alone can accomplish very little or nothing. We are not by any means all William McClures. We need each other's advice, help and upbuilding influence as no other men do. Let us get rid of this spirit of contention, which is base and so infects and divides the people in every community as to destroy the public respect and confidence which we merit. Let us throw aside our personal jealousies and unite in our effort to obtain a systematic organization. Life is but a span, and there is but one definition of happiness: "What of comfort and pleasure we can be to others." All else is selfishness, unfit for our noble calling.

We are not merely physicians, but we are citizens; and, it behooves us to be model in this respect, taking an active part in every-day affairs. We have no right as good citizens to hold aloof from anything where the good of our fellowman is at stake.

Your influence in the family is more potent than that of the minister. There is but one way that you can turn influence for the welfare of all—that is by well understood professional organization. Are you aware, gentlemen, that today in the State of Alabama no man is nominated for a position as legislator or congressman without the county or district medical society is consulted, and as a consequence the body politic of that State has nothing to do with its educational institutions, health boards or statistics. Philanthropy and the administration of state institutions have developed within the last ten years into a science; health boards in every state and country are now an absolute necessity, and you all know full well the necessity for a complete record of births, deaths and marriages. No party reasons should ever influence the appointment of any one to control, or in any way have anything to do with these, to the welfare of our commonwealth, most important places. Are you aware that today this great State of ours has no complete vital statistic record or report?

We have in our great State fifteen congressional districts and 115 counties. We have over 5,000 physicians. We have thirteen district medical societies, twenty-five or tweny-six county medical societies, and eight or ten special medical societies—an appalling fact! Our meeting at Jefferson City was a representative one. There were 269 in attendance; of this number seventeen were by invitation, fifty-seven from district medical societies, and seven registered with no county or district society given. Does any physician within the sound of my voice look upon this condition of affairs with pride?

It is an astonishing fact that although some of our State Medical Societies have been in existence for more than half a century, only one in three regular physicians is a member of their state or county society, and only one in ten is a member of the American Medical Association. Mark the frightful condition of Missouri—now that we are 45 years old. Our membership should be at least 3,000. Do we not deserve criticism by the laity? One of the difficulties of the past has been that the state societies have not performed their full functions, being, as a rule, simply scientific

bodies. Probably nothing has created as much dissatisfaction among the general mass of the profession in the past as the fact that the state societies have done nothing to enforce the laws or look after the material interests of the profession in any way. Business has been neglected and sacrificed for the sake of scientific work in probably three-fourths of the state societies of our country.

The enforcement of the medical laws of our commonwealth depend upon the co-operative action and systematic organization of our State Medical Association. We should be a chartered body, empowered (if possible) so that every county or district medical society could obtain its charter from the state body, thus making the county or district society the integer of the state and national organization.

If you desire a medical man in the cabinet—organize; if you wish to place your congressional representative—organize; if you wish the ear of your State Legislature—organize; you can place your calling on a higher plane, where it properly belongs; you can make charlatan and quack fold their tents and quietly steal away. Membership in the county or district medical society should carry *ipse facto* membership in the state and national associations; by this you at once, on account of your increase in membership, bring your fees to a minimum; you at once, on account of the report of the officers of the county or district medical society do away with your credentials, and the home society becomes the foundation of the state and national organizations.

The question, then, of vital importance that should first claim our attention today is a complete reorganization of our present constitution and by-laws. Looking back upon the career of our association from a business standpoint, I think that you will all agree that a united effort is necessary for a radical change. Let us compare our constitution and by-laws with the American Medical Association's.

The changes that must take place cover three points: (1) The change in the association itself; (2) our changed relationship with the American Medical Association; (3) the relationship of the county or district medical society to our State organization.

1. The change in our State association. We should be a chartered body; and composed of members of county and district medical societies, holding charters from the state body—of course, remembering always our guests and honorary members. There should be no district branches in the make-up of our organization—scientific and legislative. While every member (in good standing) of the county or district society will have the privilege of attendance at the State society, each county will send one or more delegates to the state society, who shall compose a "House of Delegates" or judicial council and have charge of the legislative and material interests of the profession; thus, while the larger body is engaged in the reading and discussion of papers and other scientific work—as now—the small delegate body, representative and selected for this especial purpose, may devote as much of the three days as may be necessary to legislative and business matters. The entire membership of both branches of the organization should be made up by the registration—this compared with the

rosters from the county and district medical societies—thus doing away with the idea that a man must prove his right to attend the general meeting of the state association, outside of the official report sent in by the secretaries of the affiliated societies. In the revised constitution and by-laws of the American Medical Association, "No member of the House of Delegates is eligible to an office in the Association;" medical politics will thereby be reduced to a minimum. Let us remember this.

2. The changed relationship of our state association to the American Medical Association. Heretofore the state society had the same relationship to the American Medical Association as the city, county or district societies. In the future only the state society will be represented; in other words, the state societies practically will create the legislative body of the American Medical Association, and the House of Delegates will be a body in which are federated all of the state societies. We select or elect our delegates in proportion of one to five hundred active members, or minor fraction of this number. In the past the individual delegate was of small importance; in the future the opposite will be the case.

3. The relationship of the county or district medical society to the state association. The American Medical Association, having taken from the county or district medical societies their rights to send delegates, these must obtain their representation through the state society; hence the necessity of a more direct relationship of the county or district societies to the state society than has existed in the past.

The steps taken by the American Medical Association in adopting the report of the reorganization committee and accepting the new constitution and by-laws arranged by that committee will prove to be an immense advantage to the medical profession of this country if the state societies organize in accord with their suggestions. Under the new rules and regulations the strength of our state society will be doubled, and, of course, the the influence will grow.

To describe Missouri would make a fairy tale of beauty, culture, peace and happiness; ranking as it does, first when considered as an independent producer of all things that are necessary for the happiness and comfort of man; a population of over three and one-fourth millions, and with a property valuation for taxation beyond that of the great State of Illinois; with an acreage of four millions and no desert lands; with extensive agricultural interests; with coal, lead, iron, zinc and timber, in almost endless quantity. Notwithstanding all of these resources, and accumulated wealth we have made little progress towards protecting the health of our fellowman and taking care of those, who, on account of their infirmities, are not able to care for themselves. We can boast of eight eleemosynary institutions supported by the State, with a taxable property of one billion fifty million dollars, and a bonded indebtedness of nine million.

Our asylums have now under care and treatment 3,000; we have a board and officers appointed for a colony for the feeble minded and epileptics, accommodating about 400; an industrial school for girls at Chillicothe with about 100 in attendance; a Confederate Home at Higginsville, with about 160 inmates, and a Federal Soldier's Home at St. James, tak-

ing care of 90, approximately; the Missouri School for the Blind, located at St. Louis, with about 150 pupils, and the Missouri School for the Deaf and Dumb at Fulton, with a little over 400 students. Our great State takes the best care of its insane, many of whom have made splendid citizens and can never again take any part in the welfare of the community. We take care of our aged men and women; these certainly merit attention as long as time is allotted to them. Our State school are monuments which will endure always. In other states those who have been so unfortunate as to have had changes in the brain tissue, bringing about epilepsy, should certainly have the State's care. The German Evangelical Synod of North America is doing, through Dr. Alexander, physician-in-charge, a good work at Emmons and St. Charles, having admitted and taken care of 121 patients. Ohio was the first State in the union to establish a hospital for epileptics. This bill passed the Legislature in 1890, appropriating $40,000. The building accommodates 250 patients. Statistics show that outside of institutions, of all ages, ranging from two years to the very old, there are 3,500. In Illinois there are over 6,000 of these hopeless, helpless, unfortunate creatures. It is natural that we should shrink from sending friends and our relatives to these public institutions; however, experience shows that it is the best place for them, and we all know how dangerous these patients are to the present and to the future. Our State should make liberal appropriations for carrying out this work, which should we taken in charge of an active board of charities and correction. Minnesota maintains an excellent hospital for crippled and deformed children. Missouri shiould certainly look to these, as they are to make up a part of the future citizenship.

Tuberculosis is certainly a preventable, if not always a curable disease; and, as there are today in our State at least 5,300 persons suffering from this, the "Captain of the hosts of Death," is it not important that we should have immediate legislation on this subject? Your most excellent State Board of Health is doing great work, as far as possible, but their hands are tied doubly. First, a want of proper appropriation; second, a want of county boards of health, and compulsory laws on vital statistics. The laws of Michigan on vital statistics are certainly most thorough and accurate. The Committee on Demography and Statistics in their sanitary relations, of the American Public Health Association, which was appointed by the Commissioner of Labor and Director of the Census at Washington, D. C., giving the essential requirements of a law for the registration of deaths and the collection of mortuary statistics, is now approved by the authorities in the District of Columbia, Colorado, Indiana, Illinois and Michigan. The necessity for uniformity in all of the states, in a certificate of death, is patent to everyone when we think of a federal census. Again, deaths are registered principally for legal purposes. A subsidiary and valuable use of registration is for the compilation of sanitary statistics; by this means the local, state and federal wards of health may obtain results, direct measures and improve methods; also, show plainly the movements of population. Hoping that our State may fall into line I submit the report of the Committee

of the America Public Health Association, setting forth the necessary provisions for establishing the standard death certificate.

Every man who is dangerous to property or life, whether insane, criminal or feeble minded, should be confined, but not necessarily punished. The prison should be a reformatory and the reformatory school, for the purpose of teaching good, moral and physical habits—both educational. This object cannot be accomplished with a jail in an unsanitary condition. Dr. MacDonald, of Washington, D. C., has asked that you consider the following:

"Resoled, That we are in favor of establishing in the Department of the Interior a laboratory for the study of criminal, pauper and defective classes, it being understood that such investigation is a development of work already begun under the Federal Government. That such study shall include the collection of sociologic and pathologic data in the hospitals, schools and other institutions; that especially the causes of social evils shall be sought out with a view to ameliorating or preventing them."

Dr. F. B. Turck, of Chicago, has asked you to consider the introduction into the medical schools of the United States the practical teaching of dietetics, physio-mechanical therapeutics and hydrotherapy. The teaching of the future must be practical and objective.

The Spooner-Ray bill, introdued in the Senate of the United States, establishing a Commission of Public Health is one that this country has needed for a long time. Your co-operation is certainly most desirable. Now, gentlemen, in conclusion let me say that the principles of the civil sevrvice merit system should be adopted in the appointments, service and conduct of the affairs of all state charitable institutions. I would suggest that one of your standing committees be that on public policy and legislation.

Last, as said by Dr. McCorack: The reforms here suggested will require years of time, patient and self-sacrificing effort and quite an expense, but no one who will give thought to the subject, can question that the results to be secured are worth all of these. With a united profession we can easily guide legislation, state and national, into such channels as will accomplish most for ourselves and for our country, and at the same time give our great and noble profession that high place in the public estimation which up to the present time has been impossible, because of the defective organization and dissenions in our own ranks, which are unworthy of us. As individuals we are too frequently apt to drop the substance and grasp the shadow.

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McGill University.—It is reported that the faculty has concluded to ask the Dominion Government for an enactment to inaugurate a five-years' course in medicine.

Plague in India—The most severe outbreak of plague on record, with a daily mortality of 2,000, is reported from Lahore (Punjab Province). It is attributed to the policy of noninterference in caste customs.

Methods of Diagnosis from a Medical Standpoint with Special References to the Clinical Laboratory.

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THE last decade has witnessed great progress in medicine and surgery. The art of medicine is rapidly giving way to the science of medicine.

Surgery has seen most brilliant results from improved operative technique. Patient and careful research in the field of diagnosis has resulted in giving to the practitioner many new and valuable methods in the study of diseased conditions. The development of the germ theory, and the use of the microscope, have put at the doctor's command certain definite and indispensable aids in diagnosis.

In order to study even one phase of the subject of diagnosis it will be well to recall its definition. A full conception of its meaning and value is possessed by few and needed by all. One writer has asserted that only fifty per cent of cases are diagnosed. If we believe that rational therapeutics and intelligent prognosis are based upon a correct diagnosis, then the first and most important factor in practice is to gain a complete knowledge of the case.

Diagnosis is of Greek derivation, meaning "to know through." It is not sufficient to merely name a disease, to state that a patient has a headache, is jaundiced, has dropsy, heart disease or fever, but to know the disease, the cause of the disease, its stage and probable course; a thorough knowledge of these facts constitutes a diagnosis.

Methods.—The people formerly (and to much less extent at present) asked two questions of the doctor. "What is the matter?" "Can you cure me?" Today these questions are asked less often, and the truth more often told, for physicians are more courageous, and do not hesitate to state plainly "I do not know." People are learning that many cases cannot be diagnosed on first, second, or even third visits, but only after careful and persistent examination and observation.

The following is a schematic representation of methods used in arriving at a diagnosis:

Methods.—

a. History.
b. Subjective symptoms.
    1. Statement of patient.
    2. Elicited by questioning
c. Examination.
    1. Physical.
        a—Inspection.
        b—Palpation.
        c—Percussion.

d—Auscultatory percussion.
e—Auscultation.
3. Laboratory.
a. Of secretions and excretions.
a—Urine.
b—Sputum.
c—Stomach contents.
d—Feces.
e—Transudates and exudates.
f—Spinal fluid.
b. Blood.
c. Bacteriological.
d. Tissue sections.
e. Roentgen rays.
3. Instrumental.
d. Observation of clinical course.

From this scheme we readily see that a diagnosis may not be reached by the employment of any single method, but on the contrary, by the employment of many or all methods.

It is the atypical case which baffles the diagnostician. A patient with an initial severe rigor, temperature 105, pulse 120, respiration 40, cough, rusty sputum, flushed face, pain in the right side of chest, lying on the affected side, would suggest an immediate examination of the chest with probable findings of pneumonia. On the contrary, the patient presents himself with no complaints but a "tired feeling" and loss of weight, with some indefinite gastro-intestinal symptoms. Absolutely nothing in the history or symptomatology to throw any light on the case. It is in this class of obscure cases that the physician must employ all the means and methods at his command to arrive at a knowledge of the case.

It is the intention in this paper to discuss, necessarily very briefly, some of the more recent methods of diagnosis as found in the clinical laboratory. First, is the clinical laboratory practical? Little need be said in support of this question. Hospitals and dispensaries in our large and small cities have found them indispensable. In connection I quote Dr. Osler in a discussion of Dr. Fussell's paper on "Blood Examination and Its Value to the General Practitioner."

"I have been for many years impressed with the value of the clinical laboratory and the small laboratory in the wards; we can not any longer do without either; they are really associated; they are as essential to the proper equipment of the hospital as the internes. They are to the physician just as the knife and scalpel are to the surgeon."

There are two ways by which laboratory diagnosis in private practice is made possible: First, by the physician himself; second, the establishment of laboratories. The busy physician has little time to devote to laboratory work, and must needs hire an assistant, or send his specimens to one who makes that work a specialty, or to laboratories in our great cities.

Certain routine work in (urinalysis) blood examinations, and examinations of the sputum for tuberculosis, many men can do at their offices,

but it is the special and more difficult tests which they cannot do for lack of facilities and lack of time. Certainly a feasible solution of this question lies in the establishment of laboratories under the control of some one who is specially equipped for such work. The expense of such work should be borne by the same as for any other consultation.

Position of Laboratory Methods in Diagnosis.—There is some criticism as to the value of laboratory methods. Such criticism may be answered in a few words. The findings of laboratory examinations are always, with few exceptions, aids in the diagnosis. Ewald says, "Only the most careful and thorough consideration and weighing of all the symptoms which can be obtained with all the diagnostic resources, will enable us to recognize the existing disease."

When discoveries were first announced in the first methods of laboratory examination, many exaggerated and marvelous claims were made for certain findings, and as a result many incorrect conclusions were reached, as demonstrated by the clinical course of the disease. To repeat, many or all methods must be employed to get a correct understanding of the case.

Methods and Value.—It is impossible in a short time to give a very detailed study of the methods used in the clinical laboratory, and inferences to be drawn from the findings. We will review a very few of the subjects which are of importance in general practice and not so frequently observed.

First. Urine.—Quantity in Twenty-four Hours.—The amount of urine voided during twenty-four hours is of greatest importance in the estimation of urea, uric acid, and certain organic salts. The diagnostic inferences are only of value when the total excretion of these salts is known.

Urea.—The estimation of urea in a single specimen is of little value, e. g., a specimen may show 2 per cent urea, which would be a normal output if the amount of urine in twenty-four hours is normal (1500 c.c.); but if the single specimen shows 2 per cent urea and the total quantity only 500 c.c. we have a decrease of 20 gms. in 24 hours. Therefore the percentage means nothing without the total quantity. The total amount of urea is an index to the prognosis in chronic nephritis. The albumin may be absent or present in minute traces, with little or no sediment, but very low amount of urea. In such a case the prognosis is not as favorable as under the same conditions with considerable, or normal amount of urea eliminated.

Uric Acid.—Many fallacious inferences are drawn from finding increased uric acid in single specimen. The conditions which may give an increased deposit of uric acid in single specimen are many, while the total amount of uric acid excreted may be normal, or even subnormal, e. g., increased acidity of urine; poverty in mineral salts; percentage of pigmentation; long standing urine.

The accurate methods of determining the total elimination of uric acid are not simple, but a relative estimation may be made by repeated examinations of specimens from the 24-hour quantity, and comparing the

degree of reaction. This method is only relative and cannot be considered as accurate as the more difficult and longer methods. At this point I may state that in making an estimate of total quantity of urea, uric acid, or organic salts, the specimen should be taken from the whole 24-hour quantity.

Chlorides.—The total absence of chlorides from the urine, formerly thought pathognomonic of pneumonia, is now known to occur in certain other diseases. But taken in connection with other findings, it is still a valuable aid in diagnosis and prognosis of pneumonia. The return of chlorides in the urine of a case of pneumonia is a favorable sign, and the crisis may be expected within a few hours. A diminution of chlorides has been noted in certain gastric disorders, and a fairly definite relation exists between the degree of digestive functions and amount of chlorides in urine. Increase is noted in diabetes insipidus so constantly that Simon states in his book, that a continued elimination of fifteen to twenty grams daily is very characteristic of this disease.

Indican.—The subject of indicanuria has been very carefully studied by Chas. E. Simon, of Baltimore. He says: "I cannot agree with others in saying that the study of indicanuria possesses no importance from a clinical standpoint. I maintain, on the other hand, that an examination of the urine in this direction is at least as important as the testing for albumen or sugar, and that points of decided importance, not only in diagnosis, but also in prognosis and treatment can thus be gained."

Indican is found in the urine of those conditions which produce intestinal putrefaction, e. g., ileus, peritonitis, etc. It is quite constantly found markedly increased in diseases of the stomach with diminution or absence of hydrochloric acid, e.g., carcinoma and chronic gastritis. The amount of indican in urine in these cases is inverse to the hydrochloric acid secreted. Two notable exceptions are ulcer of stomach with marked increased indicanuria and neurotic anachlohydria with normal indican reaction.

Albumosuria (or peptomuria formerly called) is usually indicative of large accumulations of pus or severe pyogenic infections. It is believed to be a result of disintegration of pus corpuscles and their reabsorption into blood. Marked albumosuria is said to occur in "sarcomotosis of the thoracic skeleton," and is thought by some to be pathognomonic of that disease. Senator says: "In the differential diagnosis of suppurative meningitis the presence of albumoses in the urine speaks strongly in favor of this disease."

Erhlich's Diazo Reaction.— This peculiar color reaction was first found in the urine of typhoid patients, and was thought pathognomonic of that disease. It is now known to occur in some other infections and occasionally in health. It remains still a very important factor in the diagnosis of typhoid fever, and recently has been shown to be a very reliable prognostic factor in certain forms of tuberculosis, especially pulmonary and acute miliary tuberculosis. The continued presence of the diazo reaction in urine of patients suffering from this disease gives a grave prog-

nosis, and the probable rapid termination of the disease, while its absence and then disappearance, is favorable prognostic import.

Microscopical Examination of Sediment has Become a Necessity in Urinalysis.—Haylin, granular, epithelial, and waxy tube casts, are found in various forms of nephritis, amyloid degeneration of kidney, and certain toxemias without a demonstrable kidney lesion. Blood is found in varying quantities in acute nephritis and certain affections of the genito-urinary tract. Pus cells are found frequently in small numbers in healthy urines, almost constantly in female urine. Large amounts are found in urethritis, cystitis, and pyelitis. Pus in an alkalin urine is usually from the bladder, while in an acid urine is usually of renal origin.

Blood.—Hematology has given us most valuable methods in diagnosis. Current literature abounds in contributions to our knowledge of this science. The counting of the corpuscles, estimation of hemoglobin, serum reaction, and bacteriology of the blood have become so necessary to a full knowledge of a case that the diagnostician looks upon the examination of the blood as important as examination of urine.

Certain diseases cannot be diagnosed without an examination of the blood. The clinical manifestations of Hodgkin's disease and leukemia are so similar that even the most careful observer cannot differentiate without the characteristic blood findings of the latter disease. Pernicious anemia not unfrequently manifests itself by severe gastro-intestinal symptoms, and our attention may be directed to study of the stomach, when an examination of the blood would reveal the true nature of the disease.

In the Journal American Medical Association, July 28th, 1900, in his article on "Blood Examination, its Value to the General Practitioner," M. H. Fussell says: "Perhaps no class of patients are treated with less foresight or with less accuracy than chlorotic girls. They present themselves to the physicians with symptoms such as these: dyspnea, palpitation of the heart, perhaps edema, or hemorrhage from some mucous membrane. Probably a slight cough accompanies the disorder, together with a loss of appetite and rapidly increasing pallor. Time and again such patients have presented themselves at our clinic with diagnosis of tuberculosis or heart disease. An accompanying bronchitis, or the rapidly beating heart with hemic murmurs have lent color to this diagnosis. On examination of the blood with proper instruments, which is done very quickly, shows the hemoglobin to be from 20-50 per cent, with but little reduction in number of red blood corpuscles. The physical signs then become explicable, and what was a hopeless case, become amenable to treatment."

The finding of the malarial parasite will often give a clue to therapy in some persistent neuralgias or intractable headache. When searching for the malarial organism the failure to find it by no means excludes a diagnosis of that disease, but finding and identifying the parasite establishes the diagnosis.

Leucocytosis.—Writers differ as to the value of leucocyte count in certain diseases. The results obtained, based upon observation of many hun-

dreds of cases, establishes beyond all possibility of doubt that leucocytosis is one of our most valuable aids in diagnosis of all inflammatory conditions, most infectious diseases, and certain constitutional or blood diseases.

First. Leucocytosis in Inflammations.—The count varies from the maximum normal (8000) to 50,000, and even as high as 100,000 cells per cubic millimeter. This variation is dependent upon two conditions: First, the virulence of the infection, and second, the resistance of the individual. In inflammatory conditions it is the polymorphonuclear variety which is increased. These are the so-called phagocytes. Appendicitis is one of the diseases which calls for careful observation and skill in diagnosis, for it is still a disputed subject as to the time for operation (if operation should be done). In the catarrhal forms, we may have no increase in leucocytes, and from that to 20,000 or 30,000. One observer has stated that a count of 20,000 or above in appendicitis always means pus.

Second. Leucocytosis in Infectious Diseases.—A marked increase in leucocyte count may first cause us to suspect a pneumonia when the physical signs are absent or in a central pneumonia. Leucocytosis in pneumonia is a factor also in prognosis. A large count with severe infection gives a good prognosis. A gradual drop in leucocyte count may foretell the crisis. The leucocytosis usually continues after crisis.

Certain infectious diseases are conspicuous for the absence of leucocytosis. Uncomplicated typhoid fever, tuberculosis, malaria, measles. Therefore, in differentiation of simple or suppurative meningitis and typhoid fever or tubercular meningitis the presence of leucocytosis would speak for the former disease. Scarlet fever may be differentiated from measles by presence of increased leucocyte count. And in some manner if leucocytosis occur during the course of a typhoid we should be on the lookout for hemorrhage, perforation or other complication.

Blood Diseases.—It is in leucemia that the greatest change in the leucocytes is noted. The increase may reach as high as 208,000 per cm. The forms of this disease are recognized by the predominance of certain leucocytes. In the lymphatic variety there is a great increase relatively and absolutely in the small lymphosite. While in the spleno-medullary variety there is presence of myelocytes in great numbers.

Erythrocytes.—Change in number and form of the erythrocytes are noted in primary and secondary anemias. Of the primary anemias we have the pernicious form and chlorosis. In pernicious anemia a marked decrease in number is found, the writer has observed one case where the count was 900,000 (normal being 4,500,000—5,000,000), and cases are on record with as low as 4,000,000 or 5,000,000. In this disease the decrease in hemoglobin is in direct ratio with the decrease in number of corpuscles. Distinct changes in the form and size of the individual corpuscles occur in this affection with the presence of nucleated cells. In chlorosis the hemoglobin is found diminished in greater ratio than the corpuscles, the color index, which is the sign of the ratio, is very low. There may be 20-50 per cent hemoglobin, and almost normal number of cells.

In all anemias, secondary to acute and chronic infections, chronic diseases, malignant diseases, and acute hemorrhage, there is present a varying degree of decrease in red blood corpuscles and hemoglobin, but in direct ratio.

Serum Reactions.—The discovery of the so-called Widal reaction in typhoid fever has added much to our knowledge of the blood in disease. Several other similar reactions have been made since this discovery, and based on some principle which consists in the agglutination and cessation of motility of typhoid. The serum is to be divided 1-20 or 30. The reaction is present after the fifth or seventh day, and occurs in 95 per cent of cases. It is one of the most characteristic of the cardinal signs in the diagnosis of this disease.

Sputum.—The most important finding in examination of sputum is the tubercle bacillus. Pulmonary tuberculosis may be present without demonstrable physical signs, and may only be discovered by presence of the bacillus in the sputum. The prognosis of the disease is dependent upon early recognition. In all cases with doubtful family history, loss of weight, and perhaps only a little hacking cough, the sputum should be examined. Influenza may be diagnosed by identifying its bacillus in sputum. The pneumococcus pneumonia can be differentiated from other pneumonias by presence of the diplococcus in the sputum.

Curshmann's spirals and Charcot-Leyden crystals are found in sputum of bronchial asthma and serve to differentiate that form from other asthmas.

Stomach Contents.—Of the value of this method in diagnosis Ewald says: "I think all will agree with me, if in general, I attribute no positive diagnostic value to the simple fact that the acidity is increased or diminished. or apparently normal, provided this is referred to no other acid than hydrochloric, and if I consider such results only as a supplementary, although very important feature in completing and establishing the entire clinical juncture. On the other hand, I do not wish to be misunderstood, and I therefore say emphatically, that this statement is in no way intended to detract from the value of our examinations. On the contrary, they are indispensable to us, and in all cases where circumstances will not permit them we feel in doubt, and "somewhat at sea."

In obscure cases a diagnosis may not be reached before all possible facts are known, e. g., presence, absence or amount of free and combined hydrochloric acid; presence or absence of lactic acid; degree of digestibility of stomach; determination of motor and absorptive powers, and finally a microscopical examination of stomach contents. A bacillus has been found almost constantly present in carcinoma of stomach—so-called Boas Oppler bacillus

Examination of Feces, Transudates Exudates, Spinal Fluid, etc., has by no means an unimportant position in laboratory diagnosis, and the inferences to be drawn, may be necessary before a positive diagnosis can be reached. Laboratory methods of diagnosis have been over-estimated and undervalued, but they have a place of practical and definite usefulness in our study of disease.

REFERENCES.

Clinical Diagnosis. Simon.
Diagnostics of Internal Medicine. Butler.
Practical Urinalysis and Urinary Diagnosis. Purdy.
Clinical Examination of the Blood. Cabot.
Clinical Diagnosis. Kemperer.
Medical Diagnosis. Musser.
Ewald's Disease of the Stomach.
Facts and Fallacies in Urinalysis. Schaefer. Med. Record, September 16, 1899.
Diagnosis by Blood Examination. Furniss. Med. Record, November 6, 1897.
Value of Blood Examination in Diagnosis. Kalteyer. Phila. Med. Jour., Dec. 21, 1901.
Practical Value of Blood Examinations in Medicine and Surgery. Brown, Jour. Amer. Med., October 19, 1901.
Some Experiences with Blood Examinations. Deaver & Moore. Phila. Med. Jour., Nov. 23, 1901.
Blood Examination, its Value to the General Practitioner. Jour. A. M. A., July 28, 1900.

Physicians in Siberia—While physicians are rare in the Russian provinces of Europe they are very rare in Siberia. Because of the snow, ophthalmia is particularly prevalent, and on this account the government at St. Petersburg sends a number of oculists to Siberia. The government reports show that 32,000 patients were treated and 11,000 operations performed last year. One of these traveling detachments of oculists, in a six months' tour through the province of Irkoutsk, treated 3227 patients, performing 243 operations upon the eyes.—*Le Soleil.*

Sterilization of Catheters.—Nancrede and Hutchins (Medical News, November 23, 1901), Ann Arbor, give the following conclusions: 1. An infected soft rubber catheter cannot be completely sterilized by boiling, under four and one-half minutes. 2. Mechanical cleansing from all dried pus, coagulated blood, or mucus will render sterilization easier, and will demand a shorter time to be effective. 3. Elastic (English web) catheters can be repeatedly boiled for five or more minutes without roughening of their surfaces or diminution of their elasticity or strength. 4. Chemical sterilization by immersion in a 1:2000 mercuric-chloride solution for five minutes does not sterilize any variety of catheter which has become infected, at best only inhibiting the growth of the germs; for if the mercuric salt be precipitated by ammonium sulphide, the germs will grow freely when implanted in culture media. 5. The results of experiments, as stated in the previous conclusion, indicate that chemical sterilization should never be employed for catheters which are to be retained in the bladder for any length of time, unless subjected to a very prolonged action of the mercurial salt, lest the merely inhibited germs develop. 6. Should corrosive sublimate be employed for sterilizaton of catheters, it must be in a concentrated solution, and the catheter must remain in it for a much longer time than the usual period considered amply sufficient in the laboratory, no mere washing with any chemical solution being efficient for an infected instrument. 7. Formalin vapor will sterilize infected instruments in twenty-four hours; how much shorter time will be sufficent we have not as yet determined, but propose to do so in the future. 8. All methods of sterilization commonly employed should be continued for much longer periods than the minimum time required for the destruction of germs in the laboratory. 9. English-web catheters can apparently be more readily sterilized by heat than can soft-rubber catheters, probably on account of their interior construction.

Monographs on Nevous Diseases

With Especial Reference to Hygiene, Nursing and Therapeutics.

Tetanus.

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TETANUS, or lockjaw, is a disease characterized by violent convulsive seizures beginning in the muscles of mastication, hence the name lockjaw.

Etiology.—A cause of tetanus is a short rod-shaped bacillus, whose habitat is in earth. For this reason gardeners and hostlers are particularly susceptible to infection. I have seen the instance of a splinter run under the nail of a farmer while in his stable which produced tetanus; and another case of a boy who received a brush burn over the tibia while driving mule-cars in a coal shaft. Penetrative wounds, as by a nail, are also sources of inoculation. The incubation of lockjaw is much shorter than that of hydrophobia, being an average of ten days for invasion of active symptoms.

Symptomatology is indicated in the definition. It begins with rigidity of the jaws; difficulty in swallowing; stiffness in the back of the neck; the patient often complaining in the very beginning of simply an inability to move the muscles well, on account of this "stiffness;" soon the muscle rigidity becomes generalized, and there is a tonic contraction of the entire musculature interspersed with twitchings of the small muscles of the extremities; with this there is great mental anxiety, but the mind remains perfectly clear. The disease rapidly progresses, clonic convulsions occur in which the patient suffers violent pain and cries out in his torture; although efforts at clear phonation are interfered with by spasm of the pharyngeal and laryngeal muscles. There is forcible dejection of urine and feces, also abortive efforts at vomiting. With sudden noises, as the slamming of a door, or throwing of light upon the patient, the subject will go into violent convulsive seizures of a clonic nature. The patient will be at times painfully contorted in various parts of the body, the picture finally ending with general convulsion, as above stated. There is a continuous tonic contraction at the time during the active course of the disease. There is general hyperasthesia and also enormous excitability of the special senses, such as photophobia, etc. At intervals between the serious motor explosions, and even under the effect ofenormous doses of depresso-motors, the patient may get a few moments of disturbed slumber only to be aroused by a sudden convulsive attack. The progress of the case gradually downward, the patient finally at the end of three or four days going into col-

lapse with slight relaxation of the muscles and dropping of the temperature below normal, and general algid stage supervening, death soon following from exhaustion.

Treatment is as yet but symptomatic and very unsatisfactory since the cultivation of the tetanus bacillus cannot be grown outside of the human body; also as we have not been able to produce the disease in mild enough form in the lower animals to avoid death, the antitoxin has not been forgotten. With the rapid advances in bacteriology, it is to be hoped that such antitoxin will be produced in the near future, when we will have propect of successful treatment of this terrible malady. The treatment at present adopted with more or less entire failures as to cure, is immediately to open up a wound where from the above pointed-out sources of infection, any such wound exists. Even after the tetanic symptoms have developed, it would be wise, though late, to excise such a wound in the hope of staying further infection from the nidus. The patient suffering from tetanus should be placed in the quietest possible position, the room should be thoroughly shaded and kept entirely quiet from all sources of reflex irritation through the general or special senses; the slamming of a door, I have seen the cause of precipitating a convulsion. Chloral is in my experience one of the best drugs at command for the treatment of this disease; and while the heart may be depressed, the excito-motor system is so stimulated in this disease that the use of such depressant far surpasses any ill effect upon other organs, as the heart. The drug can be given in 15 grain doses every three hours, pushed until some amelioration of the convulsive seizure obtains. The remedy can, in cases where the patient is unable to swallow, be administered per rectum and in this case should be given in about twice the dose as when taken by the mouth. Bromides take second place in the management of the disorder and can be combined with the chloral in cases here the former fail. By such combination we have ideally what H. C. Wood terms the corrective action of drugs; that is the maximal effect upon one part of the system, in this case the depression of the motor centers in the brain, with a minimal effect upon, as in this case, the cardiac and respiratory functions. Morphine hypodermically, should be used with caution where the case is in a status of convulsions, the idea being here to quiet the nervous system quickly in order to prevent death through continuation of convulsions and consequent exhaustion. This drug should not be used in the interim since it is not desirable to block the kidney action in any way. Venesection in tetanus would seem to be rational therapeutics, for by this measure we could hope to carry off the toxine in part, and by hypo-dermo-clysis we could hope to dilute the blood pabulum and flush out the toxine from the nerve centers in the brain and cord. The principal drawback in the procedure would be the tonicity and spasm of the muscles and blood vessel walls which prevent both the egress and ingress of salt solution. Calabar bean I have seen of service, and should be pushed in the form of the fluid extract to the physiological limit in cases where the chloral, bromide and opium treatment outline has failed to produce any amelioration of symptoms

within the first twenty-four hours. It should be mentioned that such patients ought to be especially guarded from hurting themselves, for while they are perfectly conscious and appreciate the terrible suffering, they are of course unable to protect themselves from injuries, result of the violent convulsions. The tongue should be particularly guarded from being bitten, and the saliva should be kept clear from the throat more by posture of the body (preferably placing the patient on his side from time to time) than by any effort at mechanical swabbing of the throat. The bed should be very large, soft and placed in the center of the room so the attendants can relieve and guard the patient from all sides. If hyperpyrexia should develop, use of ice-bags to the head and spinal column would be of value.

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Turpentine.—Fifteen drops in milk three times daily is highly recommended in septic cases, such as erysipelas, parotitis, smallpox and suppurating diseases of uterus.

Cranberries—The pure, fresh juice of raw cranberries, given freely, either undiluted or with an equal part of water, is an excellent means of relieving the thirst in fever, and moreover, is markedly antipyretic, says the Dietetic Gazette. In the thirst and vomiting peculiar to cholera it is even more effective. In fifty cases in which ice and narcotics failed to make the slightest impression cranberry juice, in small but repeated doses, rapidly checked both vomiting and nausea.

The Encouragement of Temperance.— The following editorial in American Medicine, is worthy of notice: A method too frequently neglected whereby temperance may be encouraged, is the regulation of the habits of employes in reference to liquor-drinking. If the drinking habit is bad it must have bad effects, and these must serve to make the workman less capable and trustworthy. A suggestion of the method may be gathered from the fact that the French governor-director of railroads has written to the different societies opposing the use of alcohol that all the government roads have agreed to the following : First—to discharge all employes who persist in using spirits and wine while on duty; second—all persons who continue to drink shall be dropped from the pension rolls of the company, and will not participate in the endowment funds in case of an accident. All restaurants on the roads are forbidden to sell spirits to the workmen. In our country we find that Rule 207 of the Union Pacific, prohibiting employes from patronizing saloons, has, it is said, ruined twenty-five saloon-keepers, who will close their doors on the first of the month, when their license expires. The rule has been in force for four months and special agents have reported many violations. Offenders have been dropped in every instance without regard to previous standing. Only the better class of saloons have survived the effects of the order. Two of these are going to move. Three gambling houses have closed.

Fortnightly's Post-Graduate Course

In this department we will present a series of Practical Papers for the General Practitioner, written expressly for this magazine by the leading Medical Writers of the Twentieth Century.

Diseases of the Stomach.

By J. M. G. Carter, M. A., M. D., Sc. D., Ph. D.,

WAUKEGAN, ILL.,

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LARDACEOUS DISEASE OF THE STOMACH.

Definition.—This affection is an exceedingly common accompaniment of lardaceous disease of other organs, especially of the liver and intestines. It may occur also in prolonged cases of suppuration from bone-disease. It is rare as a primary affection, only four cases being recorded (Martan), but is most usually met with in cases of chronic pulmonary phthisis (Fenwick). The disease usually begins in the pyloric region, involving first the inner coats of the interglandular capillaries. Next in frequency are the capillaries which ramify the surfaces of the mucous membrane.

Pathology.—The longer vessels in the neighborhood of the blind extremities of the gastric tubes and submucosa are also involved in this degeneration. Almost the entire gastric wall may be involved in advanced cases. Large areas of muscular tissue may be involved, including the nutrient vessels.

Three results of this degeneration may be seen: 1st. The disease of the vessels tends to deprive the secreting cells of proper nutrition, and consequently it is accompanied by signs of tubular gastritis. 2d. Hemorrhage is apt to occur because of the weakened condition of the vascular walls, a condition which occurs in advanced cases of tuberculosis. 3d. Lardaceous disease of muscular tissue of the stomach renders the gastric walls weaker, and thus favors dilatation, which is also found in advanced phthisis.

The *diagnosis* of these cases will depend upon the history, and even then it may be impossible to separate them from other diseases. Edinger states that hydrochloric acid is usually deficient or absent in these cases.

The *treatment* consists in correct management of the causative disease. Anemia should be treated in accordance with general principles. General tonic and sustaining remedies should be administered.

HEMORRHAGE FROM THE STOMACH (HEMATEMESIS—GASTRORRHAGIA).

Hemorrhage from the stomach has been described already as complicating ulcer and cancer; but it sometimes arises from other causes, and a briefly review of the subject will be presented here.

Etiology.—(a) It is sometimes the result of injury, as blows in the region of the stomach, penetrating wounds, swallowing sharp-pointed instruments, use of the stomach tube (stiff tubes especially), falls, and corrosive or caustic poisons. (b) Bleeding may occur in ulceration whether simple peptic, cancerous, follicular, tubercular and typhoid ulcers, or hemorrhagic erosions, and phlegmonous abscess. (c) It may be due to—disease of the gastric vessels—fatty, amyloid and atheromatous degenerations or varices of veins of stomach walls; aneurisms have been the cause of fatal hematemesis. (d) Active congestion in acute gastritis and vicarious menstruation may give rise to hemorrhage from the stomach. (e) More frequent than the latter, as a cause of gastrorrhagia may be mentioned passive congestions; in fact venous stasis from cirrhosis of the liver is a more frequent cause of hematemesis than any other factor except ulcer and cancer. A similar venous stasis, but not so harmful in this relation, occurs in chronic cardiac disease and lung disease. Bright's disease is sometimes a cause of this condition. Phlebitis, especially pyle-phlebitis and pressure of a tumor upon the portal vein or its branches are known causes. Violent attempts at vomiting and severe expulsive efforts in parturition may cause this hemorrhage. (f) Acute infectious diseases are sometimes accompanied by hemorrhage from the stomach; and two especially—yellow fever, and pernicious malaria—are often recognized by the "black vomit." Hemorrhage occurs in acute yellow atrophy of the liver and in acute fatty degeneration of the new-born (Buhl). (g) In hemophilia, purpura, scurvy, chlorisis, pernicious anemia, leukemia, splenic anemia, lymphatic anemia and cholemia hematemesis often occurs. (h) It sometimes seems to be due to hysteria, progressive paralysis of the insane, epilepsy and tubercular meningitis. (i) According to Flint some cases may be termed idiopathic, because they occur without any apparent cause, just as a nose-bleed may occur. (j) It is a well known fact that blood is thrown from the stomach often which does not indicate hemorrhage in that organ. The blood in epistaxis, hemorrhage from the posterior nasal region, mouth or throat may be swallowed, and afterward raised by vomiting. The rupture of an aneurism in the thorax or the perforation of a gastric ulcer may produce an alarming hemorrhage.

We must observe with Pepper that in some of these "causes" the actual pathogenic condition is not easily discovered, while in others it is at once apparent.

Diagnosis.—It is necessary to make a careful study of the symptoms in each of the causes detailed above, and eliminate successively the factors there named if the cause is not at once apparent. It must be distinguished especially from hemoptysis; there is usually cough with hemoptysis, with hematemesis generally none. In hematemesis there is a feeling in the stomach of heat, fulness, nausea, perhaps of fainting and dizziness, while in hemoptysis there is chiefly a tickling sensation in the throat.

Treatment.—As cases resulting from aneurism, ulcer and hepatic cirhosis frequently result fatally, prophylactic measures should be adopted where possible. For emergency, ergot or ergotine hypodermically. Remove the cause.

CHAPTER XVIII.—THE CONDITION OF THE STOMACH IN OTHER DISEASES.

There is some disturbance of the stomach in nearly all diseases, but in many of these the derangement is only temporary and of no particular importance. In some diseases, however, the conditions are of so serious or important a nature as to require a passing notice. This is particularly true of tuberculosis of the lungs and some structural diseases of other organs.

Symptoms.—Dyspeptic and gastric catarrh are common in chronic bronchitis.

Tuberculosis of the Lungs.—So important and so prominent are some of the gastric symptoms in this disease that physicians do not hesitate to diagnose some cases tuberculosis of the stomach, and post-mortem examination confirms the diagnosis in many instances.

Symptomatology.—Loss of appetite, disagreeable sensations after meals, belching, bad taste in the mouth, diarrhea or diarrhea alternating with constipation, and gastrodynia as well as enteralgia are common symptoms when the stomach is involved in tuberculosis of the lungs and the condition most frequently present is gastric catarrh (Fenwick).

Pathology.—Einhorn, Edinger, Klemperer, Schelty, Brieger, Hildebrant, Immerman and others have found no regular changes in the gastric secretions in this disease. Where tuberculous ulcer exists hydrochloric acid may be increased or diminished. In these cases the autopsy shows the ulcers to be pale and have thickened edges. Nodules containing giant cells, bacilli, and possibly cheesy matter are found in the floors and walls. There are no characteristic symptoms of these ulcers, but they have been known to cause hematemesis and perforation.

The habit which many patients have of swallowing their sputa is sufficient explanation of the frequent occurrence of gastric symptoms in pulmonary tuberculosis. The infected material is constantly implanting upon a depraved mucous membrane a tenacious bacillus. This morbid material irritates the membrane and establishes a catarrh, in which state the viscus is susceptible to tubercular infection. We should expect that this would most readily occur in cases in which free hydrochloric acid is below normal, or in cases of prolonged disease.

The *treatment* requires the cleansing of the stomach with antiseptics. This may be done in suitable cases by lavage; but in many instances this form of treatment cannot be used, and resort must be had to some more convenient means. Under these circumstances I prefer to administer by the mouth $\frac{1}{4}$ to 1 drop doses (0.2 to 0.6) of carbolic acid, well diluted with glycerine and water, three or four times a day. Creosote may be substituted, or boric acid or salol or resorcin may be given. Perhaps better than any of these is hydrozone 3j (4.00) in eight ounces (250 c.c.) of water taken into the stomach three or four times a day. The patient should lie down on his back for twenty or thirty minutes after taking. This may be administered half an hour before meals with good results.

Other treatment consists in such measures as would be proper for the primary disease. The patient should be advised not to swallow any sputa,

and to cleanse the mouth with some antiseptic wash, as a 3 per cent solution of boric acid, before swallowing food or drink.

Diseases of the Kidneys.—Nausea and vomiting are common in nearly all forms of renal trouble, particularly the acute forms. It is thought that this symptom results from the retention of urea in the blood and its action upon the brain, or is caused by the elimination of the urea through the gastric mucous membrane. The gastric secretion is diminished in most renal affections (Biernacki), and frequently achylia gastrica prevails (A. A. Jones). I have seen similar symptoms and conditions exist in some cases of renal calculus.

Rosenstein and Gans have found the gastric functions variable in diabetes. Other liver diseases are accompanied by marked gastric symptoms. This is especially true of cirrhosis and cancer of the liver. Frequently all the symptoms of a functional dyspepsia result. Often these disturbances are due to the passive congestion of the gastric walls which follows or accompanies such liver derangements. So far as the stomach is concerned the condition is similar to that resulting from other venous obstructions.

Cardiac disease is accompanied by gastric disturbances, but they occur later in the heart trouble. Hyperacidity may result and fermentations are common. Relief of pressing symptoms and removal of the cause, where possible, is the treatment in all these cases.

Anemia, chlorosis, gout, rheumatism, malaria and other morbid conditions are accompanied by gastric disturbances, but authors find that the conditions are variable and chemical tests show that the secretions are likewise variable.

Diseases of the Skin.—Pidoux believed that all cases of dyspepsia are due to an herpetic state of the system, and that this condition gives origin to eczema, psoriasis, pityriasis, lichen and acne. While we may not be willing to accept Pidoux's view, it remains that many of these skin affections originate in or are due to derangements of digestion and *vice versa*. Pemphigus of the mouth may be due to or accompany neurasthenia gastrica or hyperchlorhydria. We have already mentioned the fact that patients with some idiosyncracy may suffer with urticaria erythema and other skin derangements by taking particular articles of food, as shell-fish (lobsters, crabs), berries and other fruits. Some of the most obstinate cases of eczema occur in children on account of feeding with improper food. A retrocession of eczema is not unfrequently observed in such cases, and is often connected with an exacerbation of the dyspeptic symptoms. A correction of the diet, however, relieves the skin disease. Even more frequent is the occurrence of acne. A. simlex and a. rosacea are not uncommon obstinate results of digestive derangement. Psoriasis has been known to occur in connection with gastric disturbance. These diseases frequently resist treatment obstinately, until the gastric cause is removed or the digestive disturbance corrected. The treatment of these cases involves a good hygienic regime and proper adjustment of the dietary.

CHAPTER XIX.—INTESTINAL INDIGESTION (INTESTINAL DYSPEPSIA).

General Remarks.—It has been known for a long time that the process of digestion is not confined to the stomach, but that much of the food passing from this organ requires still further changes to prepare it for entering the blood. To complete this work other ferments and secretions are prepared by nature; some the products of special organs, and some of glands of the intestines. The bile, the pancreatic juice, and perhaps certain intestinal secretions assist in this supplementary digestion. These juices are all alkaline, and they neutralize the normal acidity of the chyme as it enters the duodenum. As pepsin does not act in an alkaline medium, its function ceases, and hence the necessity for digestive activity in these fluids. The bile precipitates acid-albumen and the bile-salts form a precipitate with the undigested albumin and albumoses, but not with true peptone. This action converts the chyme into a resinous or viscid mass (chyle), which passes rather slowly through the intestines, thus facilitating absorption. The intestinal contents become alkaline about twelve inches from the pylorus, and then pancreatic digestion begins. The alkaline reaction obtains until the contents reach the large intestine. The *bile* has several functions in the intestinal tract: 1. It strengthens the diastatic action of the pancreatic juice. 2. When combined with pancreatic juice it has an emulsifying action on fats, and by lubricating the intestinal mucous membrane bile is said to facilitate the absorption of fats (Halliburton). 3. Bile has a laxative influence, in part, perhaps, due to its stimulating peristalsis. 4. It is antiseptic, partly by virtue of its increasing peristaltic action, thus hastening the passage of offending matter through the bowels, and to a limited extent controlling putrescence in the feces (McKendrick).

The *pancreatic* juice contains four digestive ferments: 1. Tripsin —a proteolytic ferment, which has for its function the digestion of albuminoid foods. Tripsin acts best in an alkaline medium, and is destroyed by hydrochloric acid, and the acids occurring in the lower area of the intestine (Langley). Many cases of obstinate and fatal diarrhea in new-born babies are due to the absence of tripsin in the pancreatic secretion. Tripsin forms alkali-albumens where pepsin forms acid-albumens; otherwise it forms the same series of proteoses as intermediate products in the formation of peptones, but forms them more rapidly. Tripsin acts more powerfully than pepsin on certain albuminoids of difficult digestion, as elastin and waxy substance. It digests nuclein which is not affected by gastric juice. Tripsin is a more thorough solvent and a more perfect digestant than pepsin.

2. *Amylopsin* or pancreatic diastase is an amylolytic ferment. This is absent in the pancreatic secretion of new-born children. It acts better in the presence of bile than by itself (Martin and Williams). The action of this ferment upon carbohydrates—changing starch into maltose—is the most powerful and most rapid of the functions of the pancreatic juice. Glycogen is changed in the same way, but more slowly than starch. The action on glycogen is somewhat more rapid than that of ptyalin.

3. Steapsin is a fat-splitting ferment. Although this ferment has never been separated, its existence is inferred from the action of pancreatic juice on fats. It does not dissolve in glycerin and is destroyed by alcohol. Its action is a double one, forming an emulsion and splitting up a small portion of the fat into glycerin and fatty acids.

4. Pancreatic-rennin is a milk curdling ferment. This enzyme is seldom actually required, because milk is usually entirely digested by the rennin of the gastric juice. In atrophy of the stomach, gastritis, etc., however, its presence is valuable.

The *succus entericus*, or intestinal juice, is the secretion of the crypts of Lieberkuhn—the tubular glands which exist in the mucous membrane of the intestine. The evidence in favor of a distinct action of this fluid upon carbohydrates, proteids, and fats, is not yet sufficient to warrant the statement that it has a positive digestive function. The inverting action causing the changing of cane sugar into dextrose, milk sugar into galactose, maltose into glucose, etc., may be due to the presence of *mucin*, and not to a special ferment called *invertin*.

Definition.—Intestinal indigestion is a condition in which some or all of the normal functions just described are not properly performed; or there may be present some pathogenic influence which by retarding these functions, or in some other way interfering with the normal conditions causes intestinal pain, distress, fermentations, putrefactions, or some element of discomfort and disturbance of digestion below the stomach.

Etiology.—Acute attacks of intestinal indigestion may result from a temporary deviation from the normal processes of digestion, just as in gastric indigestion. Some nervous impression, as anger or grief, may retard the secretions and hinder digestion; indigestible particles may pass from the stomach into the intestine and cause trouble. Fermentation and putrefaction products entering the duodenum from the stomach may interfere with intestinal digestion, so that many cases of intestinal indigestion are sequences of gastric indigestion. Chronic gastritis and other gastric diseases may cause abnormal products and toxines to be carried into the intestines which may be an efficient cause of this condition. The frequent recurrence of such, or the constant deficiency of some normal element may produce chronic indigestion. Putrefaction and fermentation processes may occur in the intestines by reason of the failure or deficiency of the secretions which accomplish intestinal digestion. Various causes may bring about these results. Deficiency of the bile may be due to some atrophic or obstructive disease of the liver. Catarrh of the ducts from the liver and pancreas may prevent the secretions from both those organs reaching the duodenum. Cancer, atrophic or inflammatory disease of the pancreas may inhibit pancreatic digestion. Catarrhal disease of the intestine may effectively prohibit any digestive aid from that source. The infections and other acute diseases, as cholera and enterocolitis, interfere with intestinal digestion, and a deficiency of digestive power may follow these attacks that lead to chronic indigestion. Constipation is sometimes a cause, sometimes a sequence of intestinal indigestion.

Pathology.—There is no definite pathology which can be given as belonging distinctively to intestinal indigestion. It depends upon the cause, the indigestion usually being a symptom of some morbid condition. In children which take a milk diet these derangements, ordinarily resulting from undigested casein passing from the stomach into the intestine, are likely to be characterized by congestion of the mucous membrane, and if the action of the cause is prolonged an inflammation is not an uncommon sequence. The presence of fermentation products, putrefaction, toxins and other disturbing agents produce various manifestations, some of which are so evanescent that no pathological conditions remain; hence the statement that there is no characteristic pathological anatomy in intestinal indigestion.

Symptomatology.—As might be expected from the statement that this condition results from a great variety of causes, there are many manifestations of its presence. Cases are not exactly alike, and while usually there are certain groups of symptoms somewhat characteristic of the seat and form of trouble, there are others in which the manifestations are not so marked and significant as to point to a definite cause. It often occurs, however, that these cases are not discovered at once. In catarrhal jaundice, for instance, there are disturbances of intestinal and perhaps of gastric digestion a few days before the characteristic symptoms of that disease are discovered. In cases of catarrhal enteritis and in the early stages of cancer of the intestines the symptoms are so indefinite as to make it impossible to make a satisfactory differential diagnosis of these diseases from simple functional indigestion.

Common symptoms are gaseous distention, distress, sometimes approaching an ache or a pain. Not unfrequently pain is marked. It may be irregular, colicky, sickening. It may be located in some definite area, and be steady or lancinating, radiating to different portions of the bowels, to the back, the chest or the loins. Headache or dizziness is common, and often disturbances of vision are experienced. Muscae volitantes may be observed floating across the visual field, if derangement of the liver is present as a cause or complication. Tenderness of the abdomen usually indicates some inflammatory accompaniment, as chronic peritonitis or chronic enteritis. In many cases, especially those occurring in neurotic patients, when fermentation or putrefaction occurs and when enteroptosis is present, flatulence, borborygmi and peristaltic unrest may be marked. The stools may be hard, dry, scybalous, and if bile is deficient, the color may be too light-grayish or whitish, owing to the presence of unchanged fat in the feces. This change in color may be present in diarrheic stools also. An acid condition of the alvin discharges and the presence of certain organisms may produce a greenish color.

Diagnosis.—The term intestinal indigestion is used in the same manner as the terms colic, constipation and diarrhea; hence it expresses a provisional diagnosis by naming a group of symptoms. In this case, however, the term expresses one element, at least, of the pathological condition —a failure or impairment of the function of digestion.

A differential diagnosis requires a careful exclusion of various intestinal diseases. If it is found that the condition does not depend upon any of the inflammations, neoplasms or degenerations which may occur in the intestinal tract, it may be found to depend upon some neurosis. Not unfrequently, however, the most skillful physician is unable, during the life of the patient, to pass beyond his provisional diagnosis. In doubtful cases the stomach contents should be examined to eliminate gastric disturbance. If the stomach is normal and gastric digestion complete, the next endeavor should be to determine the location of the disturbance in some definite portion of the intestine. Light colored stools indicate that the derangement is in the duodenum, the ducts, or the liver.

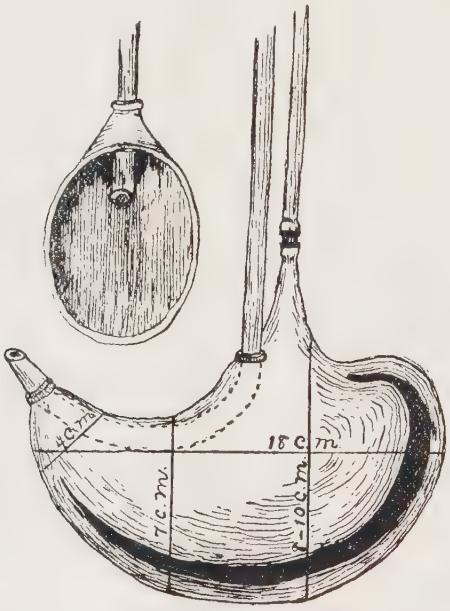

Fig. 17.—Intragastric bag for guiding duodenal tube.

Symptoms just below the stomach and above or about the umbilicus point to the upper portion of the bowels as the area involved. Intestinal disturbances located below the umbilicus and occurring after seven or eight hours following the ingestion of food are likely to be due to indigestible particles and to occupy the small intestine below the duodenum. Having located the region involved, it will be more easy to discover the cause of the disturbance and to determine whether there is some organic lesion or some deficiency of secretion.

In some cases it is desirable to secure the intestinal contents for examination. This is best accomplished by the use of Hemmeter's *intragastric bag* (Fig. 17). This apparatus consists of a thin elastic stomach-

shaped bag to which is attached a tube for introducing air. The dotted line in the figure shows a guide through which a duodenal tube is passed. The method of use is simple. The duodenal tube is placed in the guiding canal after lubrication, the bag is wrapped about the tubes and the whole is introduced into the stomach. The air tube is then attached to a "compressed air" machine and the bag slowly distended, which puts the duodenal tube into position at the pylorus ready to be pushed on into the intestine. With the tube in position, the contents may be secured and then withdrawn. The digestive power of the secretion may be discovered by the usual methods of artificial digestion; and observing what classes of food are not digested will aid in discovering where the deficiency exists. If this extra-corporeal digestion is imperfect proceed as follows:

Take three test-tubes each containing some of the duodenal contents. To the first add a thin lamina of boiled white of egg; to the second add a thin slice of boiled potato or rice; and to the third a flake of lard or butter. The temperature of the tubes should be maintained at about 100 F. At the end of four hours, the condition of the contents of tubes will show what element of the secretion is at fault. This method is of no avail to detect digestion below the duodenum.

Prognosis.—This depends upon the cause; if that can be removed, recovery may occur. Functional or nervous indigestion is favorable as to life, but may be difficult to cure.

Treatment.—Where organic lesion or some well recognized disease is the cause, a removal or correction of the pathological condition will produce a cure. Where the cause cannot be removed and where the urgency of symptoms requires immediate attention the indications to be met are: 1. Elimination. 2. Relief of suffering. 3. Aiding digesion. 4. Antisepsis.

(1) If the intestines contain poisons, indigestible or undigested food, or foreign material it should be removed by a brisk cathartic, as calomel or Epsom salts. Abundant liquid, as considerable quantities of water ought to be prescribed to aid in diluting the intestinal contents. In a few cases with tendency to diarrhea this direction may need to be reversed; but it often occurs that the diarrhea cases are quickly relieved by a laxative or cathartic. This is especially true in children and infants. (2) The relief of pain must be accomplished by hot applications, carminatives and anodynes. Hyoscyamus, stramonium, lupulin, and camphorated tincture of opium are often sufficient; but sometimes it is necessary to give morphine or codeine. Occasionally morphine and atropine hypodermically may be required. These remedies when taken by mouth often act more quickly if taken with hot drinks. (3) If certain ferments are absent from the digestive fluid, they should be supplied. Those usually administered are pancreatin and ox gall. It must be remembered that these agents act in an alkaline medium. It is necessary then to administer them with or just after some alkali like bicarbonate of soda, otherwise, the hydrochloric acid of the gastric juice will impair or destroy the effect of the pancreatin. I think we often get better effects from stimulating the liver and pancreas

to increased secretion than by administering these remedies, so often rendered worthless by the process of separation from the body of animals. Papain has been recommended. As a stimulant to the pancreas I have been well pleased with aromatic sulphuric acid in many cases. It may be given in doses of 8 to 15 drops (0.50 to 1.00), well diluted, before meals, or one or two hours after meals. (4) When gaseous distention is present and fermentations or putrefactions, or both occur, antiseptics are sometimes required to reinforce the natural secretions in their efforts to keep the canal aseptic. It cannot be expected that they produce a direct effect for a great distance, but if the upper portion of the canal can be kept in a normal condition little trouble is likely to arise further down. Salol, sulpho-carbolate of zinc, resorcin, subnitrate of bismuth, salicylate of bismuth and calomel in small doses are some of our best remedies.

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Anal Pruritis, Endometritis, Etc.—Candler (Med. Summary) says that the following combination is most excellent for pruritus ani, carbuncle, swollen glands, eroded and ulcerated cervix in endometritis, purulent condition of the the appendages, etc.:

Icthyol	1 dr.
Tinct. iodine	3 dr.
Glyc. hydrastis	5 oz.
Boroglyceride	6½ oz.

In affections of the female genital tract this mixture is applied on tampons.

Ichthargan in Gonorrhea.—It is a fact which has now received very general recognition that acute gonorrhea, or rather the acute stage of a gonorrheal attack, is a condition well within the control of the practitioner. If he treat it steadily by one of the modern methods of irrigation he need not fear that it will not gradually but surely subside. The effort to expedite recovery, to minimize suffering, and to lessen the danger of complications, has led to the trial of many new remedies, most of which are as willingly discarded. Ichthargan, according to Taenzer, of Bremen (Monatshefte f. Prakt. Dermat., April 1, 1902), is a drug which has come to stay. In one case he had tried Janet irrigations daily for two weeks without avail, while after three irrigations with ichthargan the urine cleared up completely. His general method in the treatment of gonorrhea is at present as follows: With fresh infections he is accustomed to put the patient upon the usual dietary and hygienic regulations, and to prescribe internally only ichthargan, in a solution of 5 centigrams to 200 cubic centimeters of water, of which a dessertspoonful is taken every three hours. The urine becomes clear within from eight to ten days, even in the most severe forms of the disease, and the use of the drug in irrigations is now begun. A one per cent solution is injected daily into the anterior urethra. In chronic gonorrhea he makes use of the same preparation.—*Medical News.*

MEDICAL MISCELLANY

Recent Advances in the Treatment of Epilepsy.—By Dr. Harold N. Moyer, Chicago, Ill. (Abstract of lecture).—Epilepsy is a condition. Had success with supra-renal extract. The patient is not cured by merely suppressing the convulsion, but he must be brought back to the normal level. Dr. Moyer illustrated by chart that there are five levels: 1. The normal. 2. That stage when the patient is cross and irritable. 3. A peculiar psychic stage accompanied by a few mild attacks. 4. Slight attacks of petit mal with or without loss of consciousness. 5. Graver attacks. In treating bad cases, there were two instances of failure. The chart exhibited graphically depicted a typical case, where the condition gradually reached the status epilepticus, having five or six convulsions daily, and which ceased almost entirely after the administration of the supra-renal extract. Bromides are also good, and best if used by the salt-starvation method. Salt is suppressed in the diet on the theory that in the blood it enters into combination with the bromides and does not produce the effect; and furthermore, you get the same effect from small doses which otherwise would require larger doses. A certain amount of salt, however, is necessary, otherwise the patient will exhibit signs of bad nutrition. Sometimes the bread can be salted with bromide of potassium. By this method, 10 to 20 grains a day is quite sufficient. Tell the patient that the disease is chronic, and that it is long and hard to cure. It requires strict adherence to the treatment, even for one or two years. Select the most intelligent member of the family to make a record every day. The most difficult thing to deal with is the diet, and especially with children, as they resent restrictions in diet. A child will gorge himself when he has something that he likes. Every family has feast days and fast days. That is all right for healthy people, but wretched for the epileptic. It makes no difference ence what the epileptic eats, provided it is wholesome, digestible, well cooked, the meals equal in size, and at regular intervals.

Dr. A. S. von Mansfelde, Ashland, Neb.: What is your experience in regard to dilution of bromides?

Dr. Moyer: I give them largely diluted, using six to eight ounces of water to each dose.

Dr. von Mansfelde: How do you give the extract?

Dr. Moyer: Five grains three times a day in capsules. I do not like the tablets. I get a fresh bottle, and have the ounce made into 100 capsules.

Dr. F. E. Coulter, Omaha, Neb.: I was very much interested, and am sorry that Dr. Moyer has not reported more cases. We will expect him at our next meeting, and hope to hear more from him on this subject. Regarding the salt-starvation method, it is rather interesting to know that it has been recommended some fifteen or twenty years ago, but it was not taken up until recent years, and it seems to me, from the experience in the National Hospital in London, where they used nearly two tons of bromides annually for epilepsy, they got better results by the salt-starvation

method. In the National Hospital they will not give any medicine whatever until a nurse or attendant has seen one of the convulsions, and, when that convulsion came on, how it first manifested itself, his actions during that convulsion, whether it was clonic or tonic, whether general or con fined to some particular portion of the body, and the condition of the patient afterward, noting, of course, the entire time of duration. It seems to me it is a very important matter in these cases, and I am very glad that the doctor has gotten out a chart that can be filled out by an intelligent member of the family; unfortunately, however, we have these cases in such families where it would be a question as to who would be a guardian.

Dr. von Mansfelde: I want to as what kind of bromides you use.

Dr. H. D. Jerowitz, Kansas City, Mo.: I would like to ask whether it is not a fact that a great many epileptics will have a quiet period for a long time, and then will have a succession of rapid outbreaks. These will continue for two or three months at a time, and then the attacks will perhaps cease entirely for several years, independently of treatment. I have noticed this condition so much in epileptics and also in cases of migraine which is closely related to epilepsy.

Dr. Strong, Omaha, Neb.: This paper brings to my mind an experiment in France with the use of blood serum from epileptics, and injected as a curative measure. In most cases this has been a great benefit, and some children have so improved that they can go to school and get along like other children. Now, whether we can see any connection between the use of these glandular extracts and the blood serum, I don't know. It was also stated that this treatment was an utter failure in four or five patients, and those were in people in whom there was a marked heredity. I would like to ask the author of the paper if his cases of failure were of heredity.

Dr. Moyer (closing): I first used bromide of potassium, then mixtures, then sodium bromide, and in the past year, potassium bromide again. I recognize the fact that there is a possibility of my treatment having no bearing upon the improvement in my cases; they are too few, and perhaps too mixed up with other treatment and psychological suggestions to say with absolute certainty that the glandular extracts were useful; but I think they are, and bring it to you for what it is worth. I think the chart will illustrate to you that every case of this kind is a study with me, and I will not undertake a case unless I am sure my directions will be followed. My treatment is very thorough—not merely telling the patient to continue the medicine if he is better, and changing it if he is worse. I have been dealing with epilepsy a good many years, and in bringing this to you I think it is a good thing. It has given me results that I have never before had with anything else. This method seems worthy of trial.

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Nervous Insomnia.—

℞ Camphor monobrom..... gr. ij
Ext. cannabis indicae.....
Ext. hyoscyami.. ..... gr. $\frac{1}{3}$

Ft. pil. No. i. Two to five pills a day.—Debove, *Le Proges Med.*